CLAIMS

What is claimed is:

1.   1.   A method of facilitating the translation of a digital message between natural
2. languages, the method comprising the steps of:
3.   a.   converting a digital message in a natural language to a digital message in a
4. pivot language, the pivot language affording translation into a plurality of natural
5. languages by direct substitution of linguistic units, the converting comprising:
6.   i.   parsing the digital message in the natural language into a plurality
7. of linguistic units to create a parsed message;
8.   ii.   translating each of the plurality of linguistic units in the parsed
9. message into a unique concept in the pivot language to create a provisional message; and
10.   iii.   validating the provisional message as the digital message in the
11. pivot language if the provisional message conforms to the pivot language; and
12.   b.   communicating the digital message in the pivot language to a recipient.

1.   2.   The method of claim 1, the converting step further comprising resolving the
2. provisional message according to a plurality of rules of a constrained grammar.

1.   3.   The method of claim 1, the converting step further comprising prompting
2. selection of a unique concept from the pivot language when the linguistic unit is
3. associated with a plurality of unique concepts in the pivot language.

1.   4.   The method of claim 1 wherein the digital message in the pivot language is an
2. instant message and the recipient is an instant message service.

1.   5.   The method of claim 1 wherein the digital message in the pivot language is a
2. piece of electronic mail and the recipient is an electronic mail server.

1.   6.   The method of claim 1 wherein the recipient is a translation module.

1   7.   The method of claim 1, the method further comprising converting the sound of a

2   human voice into a digital message in a natural language.

1   8.   The method of claim 1, the method further comprising prompting selection of pre-

2   process or post-process disambiguation.

1   9.   The method of claim 1, the method further comprising communicating an applet

2   that initiates translation to the recipient with the digital message in the pivot language.

1   10.   The method of claim 1 wherein the communicating step comprises

2   communicating the digital message in the pivot language to a first recipient, the method

3   further comprising:

4   c.   converting the digital message in the pivot language into a digital message

5   in a second natural language, the converting comprising:

6   i.   identifying the second natural language associated with a second

7   recipient;

8   ii.   accessing a database associated with the second natural language;

9   and

10   iii.   translating the digital message in the pivot language into the digital

11   message in the second natural language using the database; and

12   d.   communicating the digital message in the second natural language to the

13   second recipient.

1   11.   The method of claim 10 wherein the first recipient is the second recipient.

1   12.   An apparatus for facilitating the translation of a digital message between natural

2   languages, the apparatus comprising:

3   a conversion module, the conversion module converting a digital message in a

4   natural language into a digital message in a pivot language, the pivot language affording

5   translation into a plurality of natural languages by direct substitution of linguistic units,

6   the conversion module comprising:

7   a parsing module, the parsing module parsing the digital message in the

8   natural language into a plurality of linguistic units;

9   a translation module, the translation module accessing a database to

10 translate each of the plurality of linguistic units into a unique concept in the pivot

11 language by direct substitution to create a provisional message; and

12   a validation module, the validation module validating the provisional

13 message as the digital message in a pivot language if the provisional message conforms

14 to the pivot language; and

15   a communication device, the communication device communicating the digital

16 message in the pivot language to a recipient.

1   13.   The apparatus of claim 12 wherein the conversion module further comprises:

2   a grammar module, the grammar module resolving the plurality of linguistic units

3   in the provisional message into conformity with a plurality of rules of a constrained

4   grammar.

1   14.   The apparatus of claim 12 wherein the conversion module further comprises:

2   a disambiguation module, the disambiguation module prompting selection of a

3   unique concept from the pivot language when the linguistic unit is associated with a

4   plurality of unique concepts in the pivot language.

1   15.   The apparatus of claim 12 wherein the digital message in the pivot language is an

2   instant message and the recipient is an instant message service.

1   16.   The apparatus of claim 12 wherein the digital message in the pivot language is a

2   piece of electronic mail and the recipient is an electronic mail server.

1   17.   The apparatus of claim 12 wherein the recipient is a translation module.

1   18.   The apparatus of claim 12 further comprising:

2   a speech recognition module, the speech recognition module converting the sound

1   19.   The apparatus of claim 12 wherein the conversion module prompts selection of

2   pre-process or post-process disambiguation.

1   20.   The apparatus of claim 12 further comprising:

2   an applet association module, the applet association module optionally associating

3   an applet that initiates translation with the digital message in the pivot language.

1   21.   The apparatus of claim 12 wherein the communication device is a first

2   communication device, the first communication device communicating the digital

3   message in the pivot language to a first recipient, the method further comprising:

4   a second conversion module, the second conversion module being responsive to a

5   second natural language associated with a second recipient and converting the digital

6   message in the pivot language into a digital message in a second natural language, the

7   second conversion module comprising:

8   a database accessor, the database accessor accessing a database associated

9   with the second natural language; and

10   a translation module, the translation module translating the digital message

11 in the pivot language into the digital message in the second natural language using the

12 database accessor; and

13   a second communication device, the second communication device

14 communicating the digital message in the second natural language to the second

15 recipient.

1   22.   The apparatus of claim 21 wherein the first recipient is the second recipient.

1   23.   The apparatus of claim 21 wherein the first communication device is the second

2   communication device.

1   24.   A method of translating a digital message into a natural language, the method

2   comprising the steps of:

3   a.   converting a digital message in a pivot language into a digital message in a

4   natural language, the pivot language affording translation into a plurality of natural

40

5 languages by direct substitution of linguistic units, the converting comprising:

6   i. identifying a natural language associated with a recipient;

7   ii. accessing a database associated with a natural language; and

8   iii. translating the digital message in the pivot language into the digital

9 message in the natural language using the database; and

10   b. communicating the digital message in the natural language to the

11 recipient.

1 25. The method of claim 24 further comprising the step of:

2   receiving a selection of a natural language to associate with the recipient.

1 26. The method of claim 24 wherein the digital message in the natural language is an

2 instant message and the recipient is an instant message service.

1 27. The method of claim 24 wherein the digital message in the natural language is a

2 piece of electronic mail and the recipient is an electronic mail server.

1 28. The method of claim 24 further comprising the step of:

2   directly substituting a linguistic unit in the digital message in the pivot language

3 with an equivalent linguistic unit from the database associated with the natural language.

1 29. The method of claim 24 further comprising the step of:

2   reorganizing the linguistic units in accordance with a grammatical rule associated

3 with the natural language.

1 30. The method of claim 24, the method further comprising the step of:

2   synthesizing the sound of a human voice saying the digital message in the natural

3 language.

1 31. The method of claim 24, the method further comprising the step of causing a

2 serving to receive a digital message in a pivot language, and wherein the converting step

3 further comprises causing the server to convert the digital message in the pivot language

4 into a digital message in a natural language.

1 32.   The method of claim 24 wherein the communicating step is performed in a mode

2 of communication associated with the recipient.

1 33.   The method of claim 24 wherein the converting step is responsive to the

2 execution of an applet.

1 34.   An apparatus for translating a digital message into a natural language, the

2 apparatus comprising:

3   a conversion module, the conversion module being responsive to a natural

4 language associated with a recipient and converting a digital message in a pivot language

5 into a digital message in the natural language, the conversion module comprising:

6   a database accessor, the database accessor accessing a database associated

7 with the natural language; and

8   a translation module, the translation module translating the digital message

9 in the pivot language into the digital message in the natural language using the database

10 accessor; and

11   a communication device, the communication device communicating the digital

12 message in the natural language to the recipient.

1 35.   The apparatus of claim 34 further comprising:

2   an index, the index enabling a linguistic unit representing a unique concept in the

3 natural language to be directly substituted for a linguistic unit representing a unique

4 concept in the pivot language.

1 36.   The apparatus of claim 34 wherein the digital message in the natural language is

2 an instant message and the recipient is an instant message service.

1 37.   The apparatus of claim 34 wherein the digital message in the natural language is a

2 piece of electronic mail and the recipient is an electronic mail server.

1   38.   The apparatus of claim 34 wherein the translation module translates the digital

2   message in the pivot language by directly substituting a linguistic unit in the pivot

3   language with an equivalent linguistic unit in the natural language from the database.

1   39.   The apparatus of claim 34 wherein the translation module reorganizes a plurality

2   of linguistic units in the digital message in the pivot language in accordance with a

3   grammatical rule associated with the natural language.

1   40.   The apparatus of claim 34 further comprising:

2   a voice synthesis module, the voice synthesis module synthesizing the sound of a

3   human voice saying the digital message in the natural language.

1   41.   The apparatus of claim 34 further comprising:

2   a server accessor, the server accessor transmitting the digital message in the pivot

3   language to a server for conversion into the digital message in the natural language.

1   42.   The apparatus of claim 34 wherein the communication device communicates the

2   digital message in the natural language to the recipient in a mode of communication

3   associated with the recipient.

1   43.   The apparatus of claim 34 wherein the conversion module is responsive to the

2   execution of an applet.